

THE

D E N T A L

# Digest

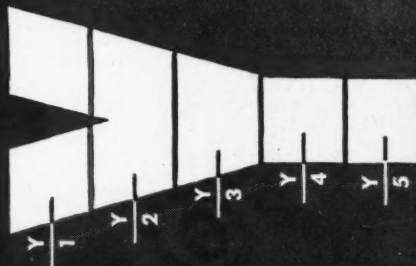


MARCH 1944

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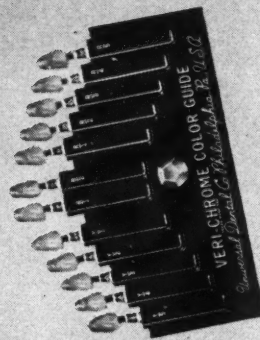
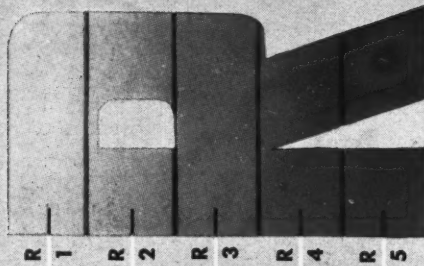
First, without using the Guide, judge the general classification of the hue. Does the tooth appear to be yellow... or yellow-red?

Then estimate the degree of saturation of color of the tooth. Assume that the tooth appears to be yellow of approximate saturation #2 (Veri-Chrome color Y2).

Now use the Color Guide, but draw out R2 instead of Y2. Compare R2 to the natural tooth. If the natural tooth appears yellow by contrast—then the original judgment of

hue was correct. If it doesn't appear yellow by contrast—then the original judgment of hue was incorrect. If the judgment of yellow was correct, then proceed to ascertain the degree of saturation by the same method of Contrast-Comparison. The tooth was judged Y2. Therefore, compare the natural tooth with Y1, which is less saturated, or Y3, which is more saturated.

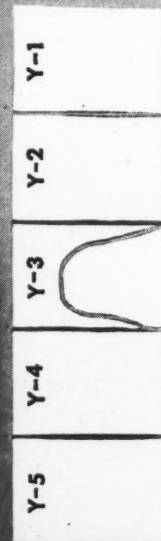
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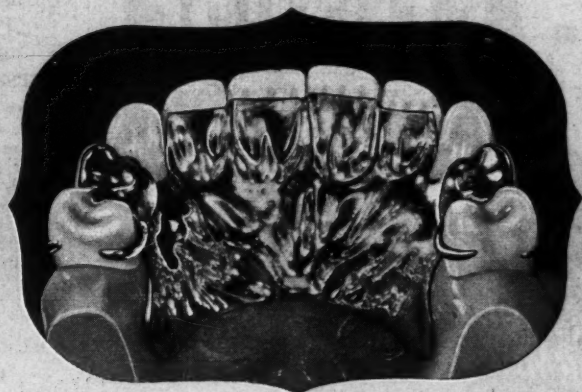
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## MARCH 1944

Early Removal of Third Molars to Prevent Caries, <i>Julious R. Bourgoyne, B.S., D.D.S.</i> .....	108
Lingual Arch Therapy (Abstract), <i>John W. Ross, D.D.S.</i> .....	108
The Use of Surgery and Splints in the Treatment of Periodontal Disease.....	111
<i>Lester B. Older, D.D.S.</i>	
The Psychogenic Factor in Dental Caries, <i>E. F. Briggs, D.D.S.</i> .....	115
Clinical and Laboratory Suggestions, <i>Chester J. Henschel, D.D.S.</i> .....	117
The Fate of Bacteria Sealed in Dental Cavities (Abstract), <i>F. C. Besic, D.D.S.</i> .....	119
Impression Technique for an Immediate Lower Denture, <i>Raymond K. Hyde, D.D.S.</i> .....	120
Decalcification of the Crowns of Teeth in Situ (Abstract), <i>Stanley A. Lovestedt, D.D.S.</i> .....	142
The Editor's Page.....	123
Contra-Angles.....	126

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JULIOUS R. BOURGOYNE, D.D.S. (Loyola University, School of Dentistry, 1941) specializes in oral surgery and is an instructor at Tufts Dental College. He advances his theory that early removal of the third molars, which exert damaging pressure on contact points, would help prevent proximal caries.

LESTER B. OLDER, D.D.S. (University of Maryland Dental School, 1934) stresses the diagnosis and treatment of periodontal diseases in his general practice. He presents his report of a case of periodontal disease treated with the use of surgery and splints.

RAYMOND K. HYDE, D.D.S. (University of Pittsburgh, School of Dentistry, 1926) is a general practitioner. Doctor Hyde describes an IMPRESSION TECHNIQUE FOR AN IMMEDIATE LOWER DENTURE. The technique combines modeling compound and colloid.

EUGENE F. BRIGGS, D.D.S. (University of Maryland Dental School, 1903) is in general practice. He presents the theory that some cases of dental caries are produced by psychogenic factors.

CHESTER J. HENSCHEL, D.D.S. (New York University College of Dentistry, 1929) adds four practical ideas to his series of CLINICAL AND LABORATORY SUGGESTIONS which started in the January issue. They are: AMALGAM CONDENSATION ON LINGUAL STEPS; A BETTER CEMENT-MIXING SLAB; A HANDLE FOR INLAY CEMENTATION; and CEMENT-BASE BOTTLE.

## About Our CONTRIBUTORS

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# Early Removal of Third Molars to Prevent Caries

JULIOUS R. BOURGOYNE, B.S.,  
D.D.S., Boston

## DIGEST

The theory is advanced that the pressure which is caused by the third molars on the contact points of the first and second molars and the bicuspid causes wear of the contact points, a roughening of the surfaces, and results in proximal caries. This development of proximal caries can be prevented, or at least retarded, by removing the third molars early, before they exert their damaging pressure on the contact points.

WHILE THE search for a drug that will retard or prevent entirely the development of dental caries is progressing, the dental profession should help to prove the theory that some caries can be prevented by "prophylactic surgery." I should like to advance my belief that crowded and impacted third molars cause much of the caries which starts in the interproximal spaces or at the contact points. This idea is presented to the profession solely for the purpose of having it confirmed by dentists, and with the proposal that they extract third molars before they exert pressure on the anterior teeth, and report the results of their findings.

Roentgenograms of the third molars before eruption show the crowns lying neatly but firmly at an angle against the second molars. It is obvious that when the roots begin to form, the crown will be pushed into



Fig. 1—Impaction lying horizontally and crosswise, having caused loss of the second bicuspid and a large cavity in the first molar.



Fig. 2—Impaction has caused caries of the first molar and a pathologic pocket posteriorly involving the ramus.

Fig. 3—Pathologic pocket posterior to third molar, and proximal caries on first and second molars.



closer proximity with the second molar, thus tightening the contact points of the teeth, especially of the teeth which lie immediately anterior to the second molar.

On observing the functions of mastication, we find that there is a slight movement of the teeth against each other at the contact points. This friction is, of course, much greater if an additional pressure is being exerted against the teeth. Is it not logical to concede that the greater the pressure, the greater the wear? The pressure resulting from the growing third molar causes the contact points of the teeth to break down into roughened areas much sooner than they would in the absence of this pressure. It is true that roughened areas of the enamel decay much faster than do the smooth, glossy areas. Should we not suppose, then, that proximal caries would be prevented by the removal of the third molars before they exert their damaging pressure on the contact points?

This theory is not based entirely on imagination, but upon data which I have compiled during the last three years. While examining and, in some cases, removing teeth from three hundred physicians who were interns and residents in hospitals, I found that 95 per cent of them had had third molars at one time or another. In the remaining 5 per cent of these patients, the third molars were congenitally absent. Of the men who at one time or another had had third molars, 90 per cent had interproximal cavities and restorations; but of those who were fortunate enough never to have had third molars, only one patient had interproximal caries of the molars and bicuspid. All the men observed at this time maintained good oral hygiene.

Throughout a series of early extractions of third molars, I have found that children recuperate from the operations rapidly, without the postoperative discolored swelling and pain which usually follow the same operation, especially extraction of the lower third molars, on adults. I believe that the lower third molars should be removed within one year after the eruption of the second

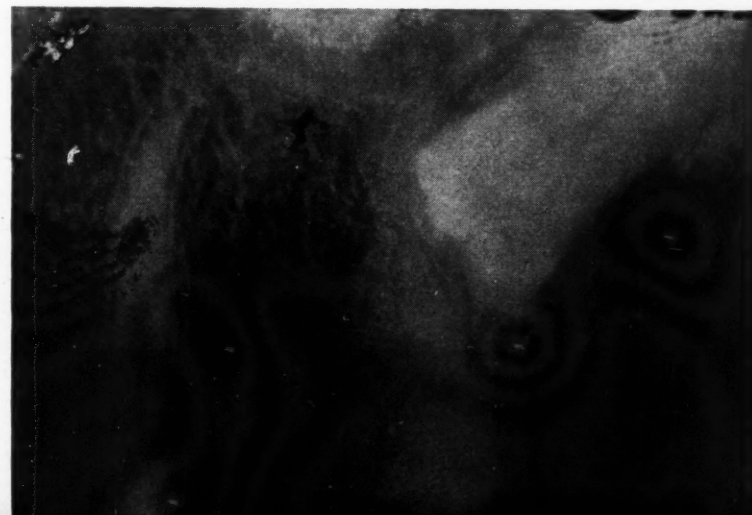


Fig. 4—Impaction has caused proximal caries of second bicuspid and loss of first molar as result of severe caries.



Fig. 5—Extensive restorations as result of caries produced by impacted third molar.

Fig. 6—Impacted upper third molar has caused loss of first bicuspid and first molar as result of caries.



molars, or at about thirteen years of age. Extraction of the upper third molars may be delayed one or two more years.

For good oral hygiene, contact points should be present, particularly in the molar areas. When these contact points are tightened, the toothbrush reaches less area than when the teeth are not crowded closely together, and it is difficult to keep the mouth clean; the contact points themselves are harder to clean. One of the greatest dental problems that the parent faces today is that of good oral hygiene for the child. From all indications, early removal of the third molars would help solve this problem.

*Tufts Dental College.*

## Lingual Arch Therapy

**JOHN W. ROSS, D.D.S.,  
Philadelphia**

ORTHODONTIC treatment is usually carried out in two ways: (1) Appliances are used at intervals throughout the patient's growth period, producing changes as the child grows and develops. The appliances are removed periodically to allow natural adaptation of the tissues to the new positions of the teeth. This treatment reaches completion when the patient reaches adulthood. (2) Appliances are used to align the teeth as rapidly as possible, the treatment then being carried on with retentive devices of the Hawley or a similar type.

These conflicting concepts have given rise to the erroneous belief that certain appliances are "fast tooth movers" and others are "slow tooth movers." The rapidity of tooth movement, however, depends on the amount of pressure exerted upon the teeth by the appliance and on the ability of the tissues to react to this pressure and to maintain the changes made. I believe that greater safety and better results come from periodic



Fig. 7—Proximal caries of first and second molars at contact points as result of pressure from third molar.



Fig. 8—Approximate stage of development at which third molar should be removed: before it causes pressure at contact points, and caries results.

treatment during the developmental period.

The value of simplicity in appliance design is apparent. Extensive tooth movement can be accomplished with a minimum of appliances. The placing of appliances in excess of those necessary for the accomplishment of the desired results is contraindicated, inasmuch as the less foreign material there is in the oral cavity, the less possibility there is of doing harm to the oral tissues through orthodontic treatment. Teeth can be moved as

rapidly with the simple lingual arch as with any other appliance.

### Use of Lingual Arch

1. Molar bands must fit accurately.
2. The half-round tube on the lingual surface must be made carefully, and the post must fit it accurately.
3. The half-round tube must be placed sufficiently high on the maxillary band so that the lingual cusps of the mandible will not strike against the arch and cause it to break.

*(Continued on page 132)*



# The Use of Surgery and Splints in the Treatment of Periodontal Disease

LESTER B. OLDER, D.D.S., Union City, New Jersey

## DIGEST

A case of extreme periodontoclasia and mobility of the lower anterior teeth is reported, in which the gum tissue was restored to a healthy condition by surgery, and the teeth were immobilized with a combination metal-acrylic splint. The patient receiving treatment for such a condition must be willing to cooperate completely with the dentist in office treatment, home care, and follow-up treatment.

## History of a Case

A HEALTHY, well developed man, aged 42, had noticed for the last few weeks that his lower anterior teeth pained him when he closed his mouth, that pus oozed from the gingival crevice, and that the teeth moved easily. He had no recollection of an injury to these teeth. He had been advised to have the lower centrals and laterals extracted. Inasmuch as the only tooth missing in his lower jaw was the left second molar, he "was willing to resort to almost anything to save the teeth."

## Examination

Examination of the mouth revealed a generalized periodontoclasia (Fig. 1), with extreme bone destruction and mobility in the region of the lower central and lateral incisors. At the time of the first examination, a small fistulous opening was exuding pus through the labial mucous membrane near the apex of the right central incisor. Traumatic occlusion was present. The pocket depth covered almost three fourths of the root surface (Figs. 2 and 3). The teeth had a normal response to the pulp tester. Roentgenographic examination con-

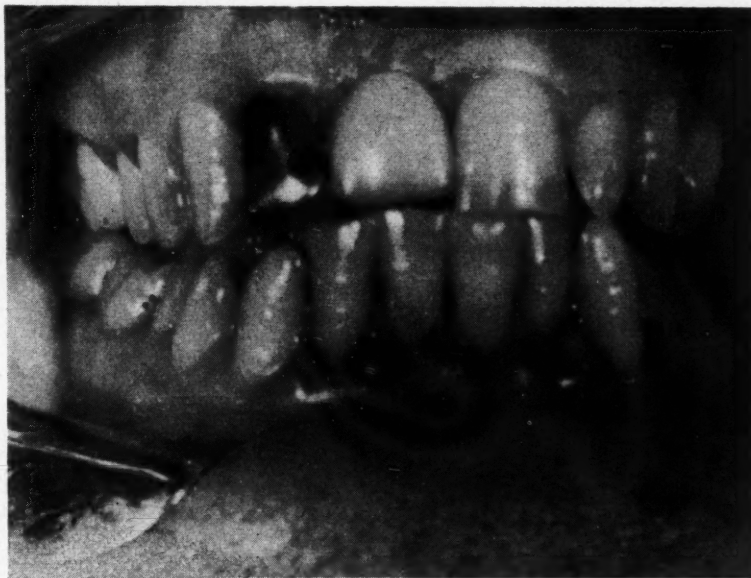


Fig. 1—Generalized periodontoclasia, with bone destruction and mobility of lower central and lateral incisors.



Fig. 2—Silver points applied to determine depth of pockets and amount of bone destruction. See Fig. 3.

firmed the diagnosis of bone destruction (Fig. 3).

## Treatment

1. An operation was advised. The



Fig. 3—Pocket depth covering three fourths of root surface. Note bone destruction.

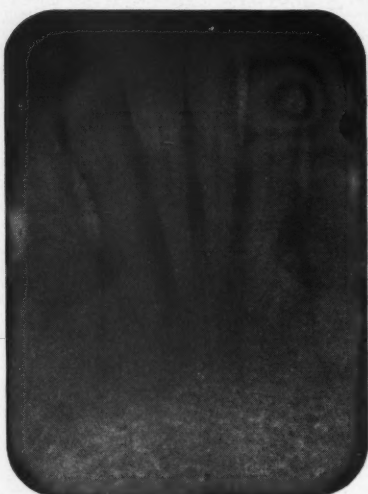


Fig. 4—Extent of surgery showing method of flapping tissue. Note depth of tissue destruction in region of right central and lateral incisors.



Fig. 5—Surgical cement pack covering field of operation.

patient accepted the suggested form of treatment.

2. Thirty minutes before the operation, he was given  $\frac{3}{4}$  grain pentobarbital sodium. Local anesthesia was used.

3. The interproximal tissue at the crest of the gingivae from cuspid to cuspid was incised, and the tissue was flapped back to the lingual and labial surfaces.

4. When the field of operation was open (Fig. 4), the subgingival calculus was scaled, and all granulation and infected tissue was removed with a curet.

5. All necrotic and loose bone spicules were removed and the alveolar margins were smoothed with bone files.

6. When the area was cleaned of all infected tissue, calculus, and infected bone, the gingival tissue was replaced in the interproximal spaces and sutured with thin catgut. A zinc oxide-eugenol surgical cement pack was applied from cuspid to cuspid, covering the entire field of operation (Fig. 5).

#### Postoperative Care

1. The surgical pack was removed

after ten days. It was found that the interproximal tissues had begun to unite, and that the gingivae had receded and had begun to assume normal appearance.

2. An impression of the lower teeth was taken at this time for the construction of a combination metal-acrylic splint. To keep the teeth immobilized and in proper alignment until the cast splint could be com-

pleted, however, an orthodontic wire splint was applied (Fig. 6).

3. The combination splint (Figs. 7 and 8) was constructed of two materials, vitallium and acrylic.

a) The bar supporting the labial surface of the four loose anteriors was made of vitallium, the strong cuspids serving as the abutments.

b) The metal was welded together on the lingual surface. The labial loops of the splint were waxed up and cast to include the labial surfaces of the centrals, laterals, and cuspids, and to terminate at the distolingual angle of each cuspid. Then a lingual section of metal with finger-like projections was welded to the casting at each termination point for retention of the acrylic.

c) After this was done, the lingual portion of the splint was processed in clear acrylic so that, when completed, it resembled a partial lower denture (Fig. 7). The splint provided metal labial support and acrylic lingual support to the loose teeth.

d) The splint completely immobilized the loose teeth. Should such a splint become loose, however, it can be tightened by pressing the labial and lingual parts together gently.

### Results

The patient has been observed weekly while wearing the splint (Fig. 9), and improvement has been noted. The tissue has gradually healed and has continued to shrink (Figs. 10 and 11). The involved teeth have tightened gradually.

The patient was taught the proper method of brushing the teeth and of stimulating the gum tissue. He practiced faithfully at home to maintain a healthy condition in the mouth. There has been no further exudation of pus nor any sign of pericementitis.

When the patient realized that he could retain his teeth, his sense of well-being and his mental outlook improved. While wearing the splint, he was able to perform all necessary masticatory functions. Should it be necessary to wear the appliance indefinitely, it can do no harm, inasmuch as it is nothing more than a prosthetic de-



Fig. 6—Temporary orthodontic splint in position.

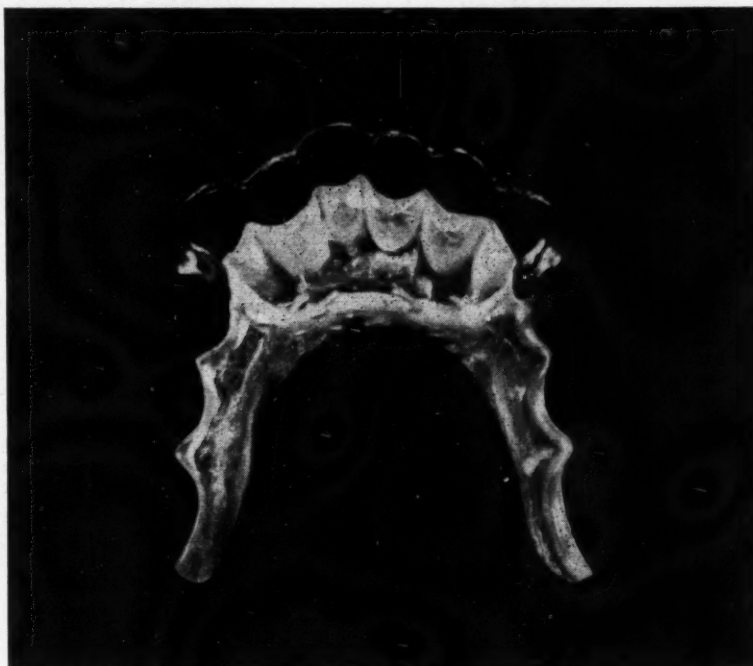


Fig. 7—Combination vitallium-acrylic splint.

Fig. 8—Splint in position on model showing lingual and labial portions.





vice to which the patient has already become accustomed.

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Writing articles for publication in technical journals can be a contribution to the war effort, because that is how to help our dental offices in the Army and Navy keep abreast of technical advancements, and it is one way to improve the skill and services of civilian dentists on the home front.

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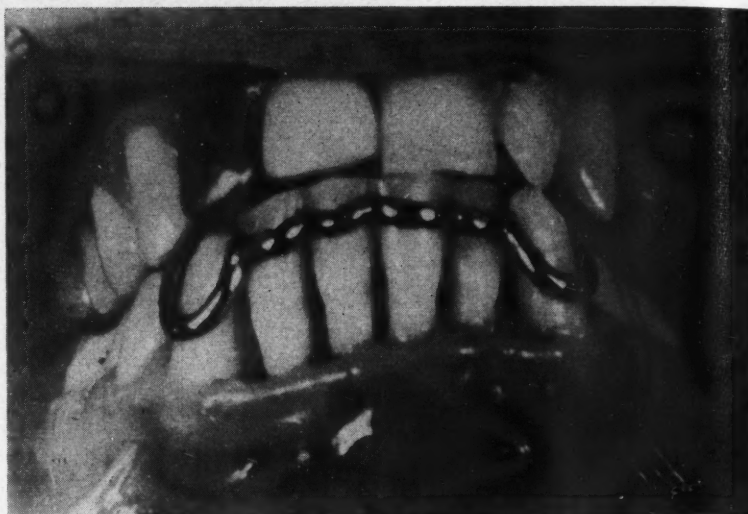
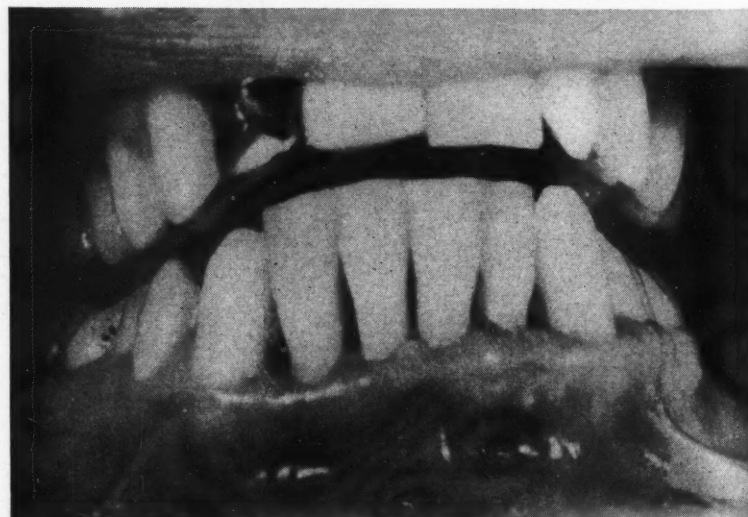


Fig. 9—Vitallium-acrylic splint in mouth.



Fig. 10—Appearance of mouth two months after treatment.  
Fig. 11—Appearance of mouth five months after treatment.



# The Psychogenic Factor in Dental Caries

E. F. BRIGGS, D.D.S., Bangor, Maine

## DIGEST

The theory is presented that some cases of dental caries are produced by psychogenic factors. The chemistry of the saliva can be altered by changes that originate in the central and vegetative nervous systems. This change in chemical balance of the saliva may influence the rate of tooth decay.

INNUMERABLE FACTORS have been attributed to the cause and to the control of dental caries. Various exciting and predisposing factors which may be contributing causes of dental caries have been demonstrated convincingly, but there is no agreement as to the controlling factor. As we have done for many diseases in the past, we have attempted to explain the cause of dental caries according to the theories of medical science which prevailed at the time. Of these probably none has been more universally debated than Miller's chemico-bacterial theory, which followed the era of specific etiology inaugurated by the work of Pasteur.

It is still believed by many that the exciting cause of dental caries is the fermentation of carbohydrate foods and bacterial action in contact with dental enamel. This theory explains the cause of caries, but it does not explain the immunity to it which some people possess, nor does it explain arrested caries which often follows a period of susceptibility.

It is agreed universally that the controlling factor in dental caries is resident in and carried by the saliva. Convincing evidence of this is noted in the absence of caries from the mandibular incisors and cuspids, which are the first teeth contacted by the secretions of the sublingual glands before being contaminated by the

oral fluids. The oral fluids may carry acids resulting from food fermentation or bacterial activity. We likewise observe little or no calcareous deposit on teeth susceptible to caries and more on teeth immune to caries. This would indicate that calcium maintains the pH of the oral fluids. It has been shown that not only an increase in the acidity of the saliva but a decrease in its calcium content creates the susceptibility to caries by permitting the acid to predominate.

In the past we were led to believe that calcium could be drawn from the teeth, thus lowering their resistance to caries. On examination of data on calcium metabolism in regard to adult teeth, one finds no evidence to show that the teeth are subject to withdrawal of calcium as are the bones. Statistical clinical investigations likewise have shown that the incidence of caries in pregnant women is no greater than in non-pregnant women of corresponding ages.

## Emotions as Cause of Disease

Increasing attention has been given in the last decade to the importance of emotions as a cause of disease, including dental caries. George Draper<sup>1</sup> of New York recently reported an investigation of eighty cases of peptic ulcer. He found that it was possible in many instances to show that an emotional upset of some kind had occurred from one to ten days before the onset of hyperacidity, pain, bleeding, or perforation. Is it not probable that emotional upsets may operate in a similar manner to retard the neutralizing factor of the oral fluids, permitting acid to predominate and to create a caries-susceptible environment?

The correlation of bodily function and the mind was not understood

until knowledge was gained recently of the function of certain endocrine glands and the vegetative nervous system. When cures have been effected by psychic healing, which has been proved possible, medicine has been inclined to dispute the findings emphatically. Recent knowledge of the science of psychiatry has placed a different aspect on the situation. A linking of the mind with the endocrine glands through the vegetative nervous system gives us a physiologic explanation for the manner in which the hormones, which effect these mysterious healings, are produced, and so-called "miracles" are performed. It is an explanation which medicine and dentistry can accept without fear of stigma.

As a result of the work of Pavloff, Cannon,<sup>2</sup> and Hoskins<sup>3</sup> of Harvard, and the more recent work of Dunbar<sup>4</sup> at Columbia, we now possess knowledge which explains how a psychologic disturbance may upset physiologic functions and through this produce symptoms of disease.

As an example of the manner in which psychologic disturbances may upset physiologic functions and calcium metabolism, Cannon<sup>2</sup> cited the case of the patient with a fracture of a leg which failed to unite. Investigation showed that the patient feared that his family was suffering while he was absent from home. A change in his condition was noticed immediately after he was assured that his family was well, happy, and under good care. He ceased to worry, and the fractured bones began to heal immediately. Thus we understand how, as a result of sympathetic dominance due to mental unrest, the function of the parathyroid glands which control

<sup>2</sup>Cannon, W. B.: *Bodily Changes in Pain, Fear, Hunger, and Rage*, ed. 2, New York, D. Appleton and Co., 1939, page 254.

<sup>3</sup>Hoskins, R. G.: *Tides of Life*, New York, W. W. Norton, Inc., 1933.

<sup>4</sup>Dunbar, H. Flanders: *Emotions and Bodily Changes*, ed. 1, New York, Columbia University Press, 1935, pages 174-177.

the calcium metabolism may be disturbed, and insufficient calcium released from the blood to unite the fracture.

The parathyroid glands control the calcium metabolism of the body; likewise, their function is influenced by the vegetative nervous system as the result of sensory stimuli. Thus a sympathetic dominance caused by a period of mental unrest may so retard the function of the parathyroid glands as to cause a calcium deficiency in the saliva. This, in turn, would allow the acid, the accumulation of which is continuous, to predominate. A sympathetic-parasympathetic balance as a result of complacency would seem to explain immunity to caries and to suggest that a parasympathetic dominance would result in an excess of calcium and calcific deposits.

The reaction of the blood and the body tissues is slightly to the alkaline side of strict neutrality, and alterations to either side of this point are possible only within the narrowest limits if life is to persist. It is concluded from all evidence that this same delicate balance must be maintained in the oral fluids to protect the teeth from caries.

### Sensory Stimuli and Saliva

The acids of the oral cavity are produced locally with extreme rapidity by foods which are fermented therein and by extremely acid foods. This presents a problem different from that of the blood and body tissues, inasmuch as instant action is necessary to neutralize this acidity if the integrity of the teeth is to be preserved.

At the taste or sight of acid foods or of sweet foods, which are known to be acid-forming, a sudden and copious flow of saliva takes place. It is noted that the stimulus is sensory, acting in response to either taste or vision. These observations indicate that it is the rate of flow of the saliva and the calcium content of the saliva, both of which are dependent on sensory stimuli, that control the reaction of the oral fluids. This is in accord with the findings of Karshan,<sup>5</sup>

Fosdick and Starke.<sup>6</sup> The instant response of the salivary glands to sensory stimuli may explain why results of chemical analysis of the oral fluids to determine susceptibility and immunity have been so misleading, inasmuch as this delicate balance may change as suddenly as the mental attitude.

As further evidence that mental stimuli control the calcium metabolism, I quote the following from Dunbar:<sup>4</sup> "F. Glaser refers to the striking constancy of the serum-calcium level in normal individuals. . . . This constancy is not found, however, in "nervous" individuals. Glaser showed that by suggestive influences in the direction of quieting, the calcium content of the blood can be considerably lowered. . . . By artificially exciting the patient on one day and suggestively quieting her on another day, these variations could be increased to a difference of 3.53 mgs. per cent. . . . M. C. Ehrström concludes from his own experiments . . . that psychic conditions which can be characterized as states of calm begin usually with a decrease of blood calcium, and periods of restlessness with an increase." Thus it appears that restlessness may decrease the calcium content of the saliva and calmness may increase it.

Broderick<sup>7</sup> states that the alteration in salivary reaction was found to vary in different people. It was shown that after saliva had been obtained from several persons in a normal state, and these same persons had been brought under the influence of the emotions when in a partly vigilant and partly hypnotized state, the similar effects always caused different changes in different persons, and dissimilar effects induced similar changes in one person. This implies that, whatever the emotional disturbance, the change in salivary reaction produced by the emotions would always be the same in one person, but that the change in salivary reaction would be different in another person. In some people it would increase the alkalinity, in others it would increase the acidity.

There can be, it would seem, no other explanation for this situation than that it depends on the direction in which the vegetative balance is upset in a particular person. People vary greatly in degree of complacency. An incident which would create a tempest in the mind of one would be unnoticed by another. This variation in complacency of different individuals may explain why children in the same family or in groups which have the same food and environment vary as regards occurrence of caries.

### Dental Caries and Civilization

Dental caries, one of the most universal of human afflictions, has been traced back at least 125,000 years to the Rhodesian man. Through the succeeding centuries, its occurrence was apparent in ancient Egypt, Greece, Assyria—everywhere that man has displayed those advantages of his progress which we call the influences of civilization. Only the races living in a primitive state have escaped its ravages. Bilby, in "Among Unknown Eskimo,"<sup>8</sup> says that among the Eskimos, who in their primitive state are a peace-loving, non-belligerent people, continual quarreling is punishable by death; and that they escape adolescence, a period during which difficulties and conflicts are inevitable among civilized people, by marrying early. Price<sup>9</sup> reveals that in Uganda, where the natives have a high immunity to dental caries, "the happiness of the people in their homes and community life is striking."

Edward Taylor<sup>10</sup> of Texas, who recently reported a high degree of immunity to dental caries among the people of Deaf Smith County, writes: "We have considered their carefree life as a possible important factor. Apparently they are as free of emotional and nervous tension as civilized white people can be."

Alexander<sup>11</sup> states: "Human beings living in a competitive civilization are

(Continued on page 119)

<sup>5</sup>Karshan, Maxwell: Factors in Saliva Correlated with Dental Caries, *J. Dent. Research*, 18:395 (October) 1939.

<sup>6</sup>Fosdick, L. S., and Starke, A. C.: Solubility of Tooth Enamel in Saliva at Various pH Levels, *J. Dent. Research*, 18:417 (October) 1939.

<sup>7</sup>Broderick, F. W.: *Dental Medicine*, ed. 2, St. Louis, C. V. Mosby Company, 1936, page 208.

<sup>8</sup>Bilby, J. W.: *Among Unknown Eskimo*, Philadelphia, J. B. Lippincott Company, 1923, page 208.

<sup>9</sup>Price, Weston A.: Why Dental Caries with Modern Civilization? *DENTAL DIGEST*, 42:92 (March) 1936.

<sup>10</sup>Personal correspondence to the author from Doctor Edward Taylor.

<sup>11</sup>Alexander, Franz: *J. Psychosomatic Med.*, 1:175 (January) 1939.



# Clinical and Laboratory Suggestions\*

CHESTER J. HENSCHEL, D.D.S., New York City

## VI. Amalgam Condensation on Lingual Steps

THE LINGUAL box or step portion of the cavity preparation on maxillary molars presents a problem in the condensation of amalgam. A matrix band properly flared to reconstruct the bell-shaped mesial and distal walls of such teeth does not fit properly on the lingual surface inasmuch as the upper molars are widest at the gingival third on this side. As a result there is no lingual matrix wall against which to pack amalgam unless an excess is used to overflow the cavity and fill the space inside the flared band.

1. Apply the matrix band as usual. A number 8 or 9 Ivory matrix retainer may be used. This method may be employed with any circumferential matrix technique.

2. Before tightening the band, insert a rectangle of thin matrix metal deep enough to extend from the gingival to the occlusal surface and wide enough to cover only the lingual surface of the tooth.

\*These are the sixth, seventh, eighth, and ninth presentations of the series of Clinical and Laboratory Suggestions which were started in the January issue.

3. Tighten the circumferential matrix; this holds the small plate of matrix in place and creates a double wall on the lingual surface.

4. Pack softened temporary stopping between the two matrix walls. This further tightens and spreads the circumferential matrix and presses the rectangular plate of matrix against the lingual surface of the tooth, thus creating a firm fourth wall for the lingual step against which the amalgam may be condensed.

A considerable amount of amalgam is saved by this method (Fig. 6) and needless trimming and finishing are prevented. Better condensation of the amalgam is the result.

## VII. A Better Cement-Mixing Slab

Dental zinc oxyphosphate cements and silicate cements are mixed best on surfaces which are cold, even as cold as 40° F., provided that the humidity does not cause condensation of moisture on the slab and ruin the mix.<sup>1</sup> A glass slab is difficult to

chill adequately and its temperature cannot be changed easily. Even when a low temperature is attained it cannot be maintained because the specific heat of glass is less than 0.2. The surface of a cold glass slab warms first in the room, and it is upon this surface that the cement is mixed. In the thermometer-temperature control slabs in which the thermometer is embedded in the thick glass slab, the thermometer is separated from the mixing surface by insulating glass and does not reflect the true mixing temperature.

Water has a specific heat of 1.0, is about six times more stable than glass, and is much more difficult to both heat and cool. Cold water, therefore, should be a component part of the mixing surface. We have found that a hollow glass slab filled with water is both inexpensive and practical. We use flat-sided, sharp-edged 8-ounce bottles about the size of cement-mixing slabs (Fig. 7). A thermometer may be thrust through the rubber stopper, and the bottle filled with cold water. Agitation, conduc-

<sup>1</sup>Henschel, Chester J.: The Effect of Mixing Surface Temperature Upon Dental Cementation, J.A.D.A., 30:1583 (October) 1943.

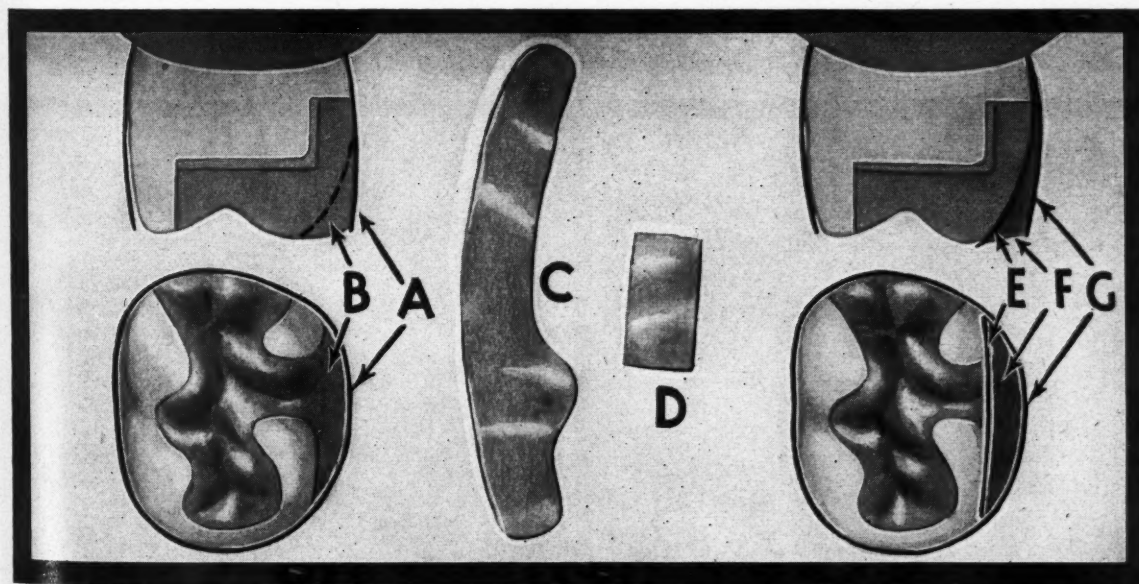


Fig. 6—A, Caping matrix; B, excess amalgam packed to attain condensation; C, average circumferential molar matrix; D and E, matrix rectangle; F, temporary stopping; G, circumferential matrix.

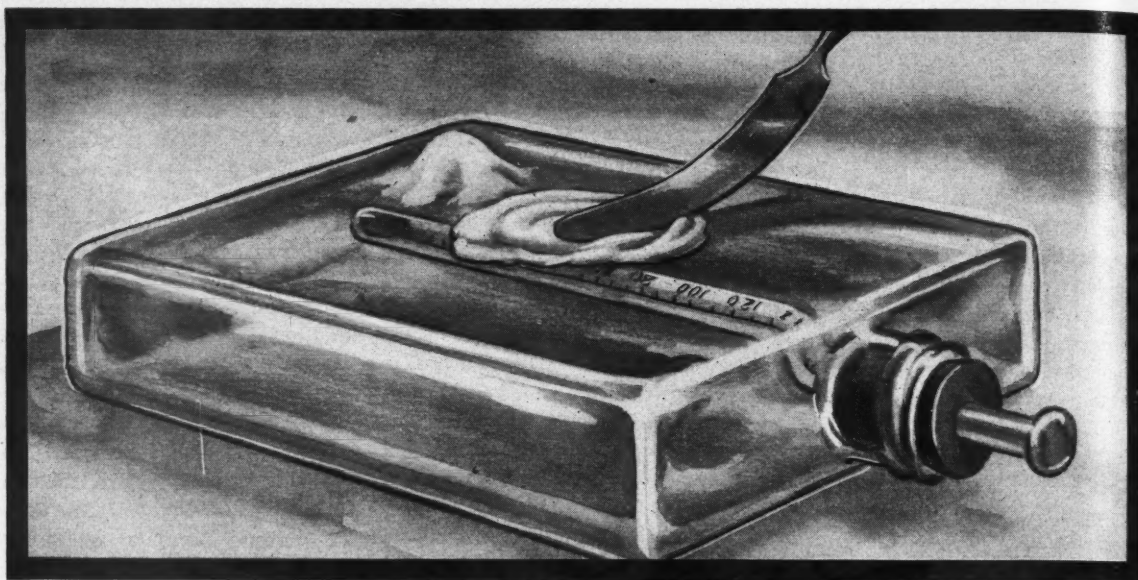


Fig. 7—Hollow glass cement-mixing slab filled with cold water, the temperature of which is controlled with the thermometer.

tion, and convection currents equalize internal and surface temperatures.

#### VIII. A Handle for Inlay Cementation

Cementation is the weakest link in the entire gold inlay technique and is, at best, an untidy procedure. Immediately prior to cementation the casting is cleaned and dried, at which time it is usually held in the fingers where it may be warmed and recontaminated by moisture, grease, and epithelial cells. The heat accelerates the setting of the applied cement which, therefore, may be somewhat

crystallized before insertion. The cement is often applied first to the cavity because of the untidiness of getting cement on the fingers. This, too, may be unsatisfactory because of premature crystallization in the warm cavity while the cement is coated on the casting. Once coated, it is sometimes difficult to determine the mesial end from the distal end of a mesial-occlusal-distal inlay.

The following procedure has proved helpful in circumventing the forementioned difficulties:

1. Clean the inlay and attach a toothpick with a bit of sticky wax to

the occlusal surface of the casting, keeping the wax well away from the margins. The toothpick should be angled toward the mesial side, pointing out of the mouth (Fig. 8).

2. Apply cement to the inlay while it is held by the toothpick handle.

3. Fill the preparation with cement and insert the inlay. When the inlay is almost seated, the toothpick can be snapped off and final pressure applied with a heavy instrument.

#### IX. Cement-Base Bottle

When dental cement is spatulated for a precise-fitting gold inlay, only

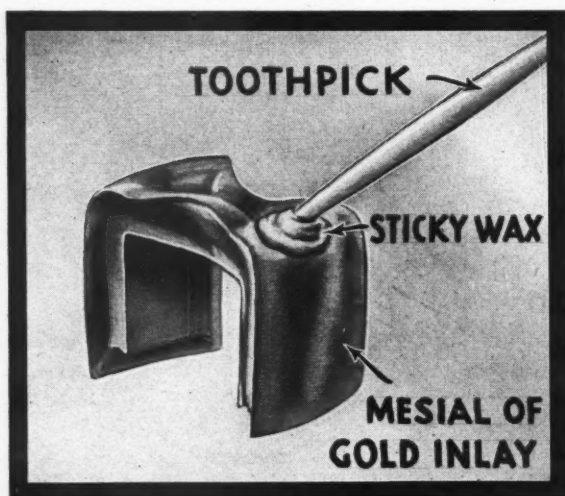


Fig. 8—Toothpick used as handle for holding the inlay. Note sticky wax well away from margins.

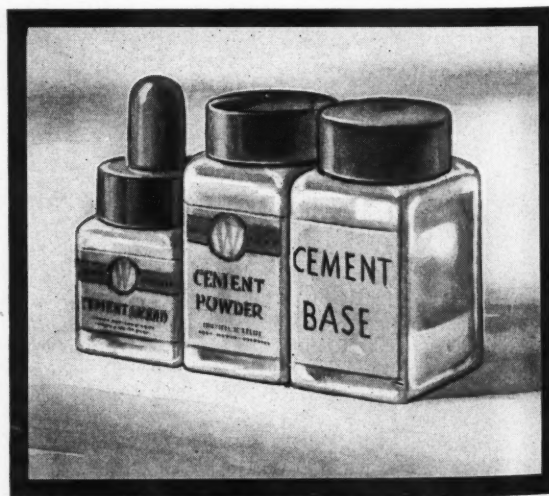


Fig. 9—Special bottle for excess powder from cement-mixing slab prevents waste.

cement powder from its original bottle should be used. Excess powder from the mixing slab may contain specks of set cement and, if this is returned to the original bottle for reuse, all the cement powder is contaminated. A particle of set cement may prevent the accurate seat-

ing of an otherwise perfect inlay.

Powder is usually left on the slab after the mix is completed and to discard it would be wasteful. This excess powder, regardless of shade, should be placed in a special empty powder bottle labeled "Cement Base" (Fig. 9). Inasmuch as the excess pow-

der from the slab can be used for all insulating bases and need not be wasted, new powder may be placed on the slab in liberal quantities when indicated. This will obviate fumbling for more powder in the middle of a mixing process.

1235 Grand Concourse.

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## The Psychogenic Factor in Dental Caries

(Continued from page 116)

... permanently exposed to fear and hostiles impulses. . . . One of the best founded discoveries of psychoanalysis is that impulses which are inhibited in their expression sustain a chronic tension which is apt to have a permanent effect upon certain physiological functions."

The conflict in the minds of civilized people as a result of a sudden change from innate habits and customs deserve our most serious con-

sideration. These stresses of civilized life will affect one person differently from another depending on his degree of complacency. A high degree of complacency, I believe, accounts for the immunity of the estimated 2 per cent who are free from caries.

I quote Alexis Carrel<sup>12</sup> in saying that the "sciences (physiology and medicine, sociology, hygiene) have

<sup>12</sup>Carrel, Alexis: *Man: the Unknown*, New York, Harper & Brothers, 1935, page 120.

neglected the study of the various aspects of consciousness. They should have examined man in the converging light of physiology and psychology. They should have utilized equitably the data supplied by introspection and by the study of behavior. . . . But one considers man from inside, and the other from outside. There is no reason to give to one a greater value than to the other."

116 Hammond Street.

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## The Fate of Bacteria Sealed in Dental Cavities

F. C. BESIC, D.D.S., Chicago

THERE HAS always been much speculation as to what happens to the bacteria sealed in dental cavities under filling materials. From this speculation controversy has arisen over the need or value of cavity sterilization, the employment of germicidal filling materials, and the importance of removing every trace of carious dentine (by clinical determination) even to the point of exposing the pulp. If the bacteria die shortly after the filling is inserted without the employment of a germicidal agent, these problems lose importance and technical procedures can be simplified greatly. If the bacteria remain alive, several problems may have significance.

It is generally accepted that bacteria penetrate the dentinal tubules beyond the limits of the softened carious lesion. The known sterilizing and germicidal agents probably are effective on the surface of the lesion but their penetrating action into the tubules is doubtful.

Millions of teeth have been filled under varying conditions and the majority of these teeth apparently have given good service. No noticeable recurrence of decay has taken place under the fillings, and relatively few local symptoms of pulpal difficulties have been reported. Unfortunately, however, other problems may be involved. If pathogenic bacteria can grow and multiply in dentinal tubules

for any length of time, could they not in some cases (in which the dentinal tubules are not occluded by calcification near the pulp) slowly, intermittently, or continuously enter the pulp? Could they possibly enter the general circulation, or could their toxins be the cause of some of the unexplained cases of sensitive teeth and even systemic complications?

A careful study was made of ten patients who had occlusal molar cavities filled without the use of antiseptics in the cavities. The results indicated that:

1. The vital process in the dentine may in some manner be necessary for

(Continued on page 148)



# Impression Technique for Lower

RAYMOND K. H. S., D.D.S.

## DIGEST

A technique which combines modeling compound and colloid is described for taking an impression for an immediate lower denture. This technique assures a faithful reproduction of the edentulous areas with accurate functional muscle trimming in modeling compound. The colloid material is used in a specially constructed vulcanite tray.

A DENTIST seldom experiences difficulty in making a stable immediate upper denture from an impression taken in colloid or hydrocolloid material with a minimum of postdamming in compound. He finds, however, that a lower impression taken in colloid is not entirely accurate because of the difficulty in establishing the denture outline. The colloid material, which tends to flow away from the tissue under pressure of muscle movement, cannot be adapted by manipulating a small area at a time. Taking a sectional impression in compound is satisfactory but is time-consuming. A complete impression in compound is usually unsatisfactory because of the undercuts formed by the labial, lingual, and distal contours of the remaining teeth.

## Technique

I have found the following impression technique, which combines compound and colloid, to be completely satisfactory:

1. Extract the posterior teeth, leaving the six anteriors in place. This should be done ten days prior to taking the impression so that primary healing of the tissue is uninterrupted.

2. Select an oversize hydrocolloid or colloid tray which extends well over the retromolar triangle. Using

Fig. 1—Hydrocolloid tray with impression of edentulous lower posterior area in modeling compound.

Fig. 2 — Colloid impression of lower anterior teeth with colloid over the compound in posterior areas.

Fig. 3—Sectional picture shows preparation of model. Teeth are covered with stone. Waxed model for impression tray shown in half-section.

# Time for an Immediate Adventure

K. S., Pittsburgh

S. S. White's black compound or Kerr's white compound, take an impression of the posterior areas only, pressing the compound well into the lingual below the mylohyoid ridge and retromolar triangle (Fig. 1).

3. Trim the impression to free the teeth, and eliminate the undercuts formed by the mylohyoid ridge.

4. Fill the anterior part of the tray with colloid or hydrocolloid, and spread the material about 1/8 inch thick over the compound in the posterior area. Allow it to set in the mouth (Fig. 2).

5. Pour a stone model. Moisten the model and build stone around the teeth to a thickness of 1/4 inch. This thickness is necessary to give enough space to take an impression of the anteriors, and to give enough bulk to insure proper strength of the colloid impression material. Extend the stone down over the lingual and labial, and 1/4 inch beyond the distal of the teeth.

6. Wax up the model completely, carrying the wax over the retromolar triangle and over the stone around the teeth; use two thicknesses of pink base-plate wax (Fig. 3). Vulcanize and finish the tray.

7. Trim the vulcanite tray according to the following specifications:

a) Observe the low portion of the floor of the mouth when the tongue is at rest. Observe the high floor when the tongue is protruded. Trim to a horizontal line halfway between the high reflection and the low reflection in the floor of the mouth. This line marks the extension of the denture in the area under the mylohyoid ridge and extends forward to include the bicuspid area.

b) Trim the posterior area just distal to the retromolar triangle at right angles to the mandible.

c) Trim the buccal to impinge 1 mm. or 2 mm. on the cheek attach-

Fig. 4—The vulcanite tray ready for trimming.



Fig. 5 — A group of trays.

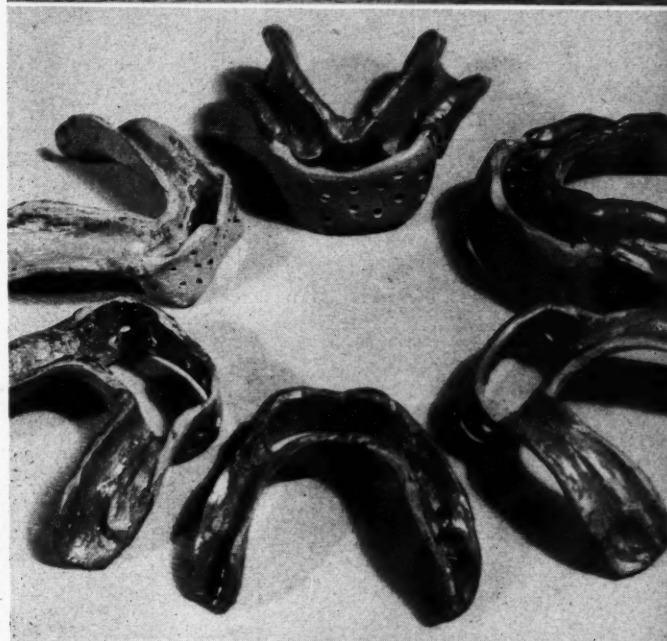
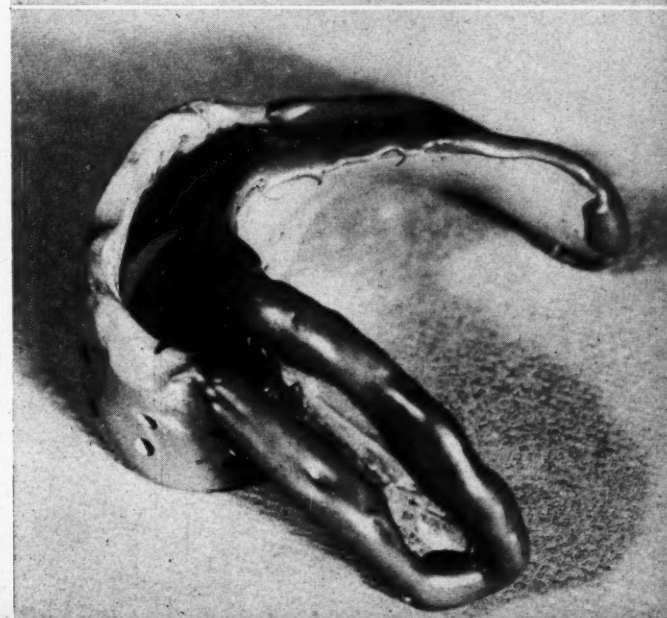


Fig. 6—Compound rolls on periphery before the impression of the posterior area is taken.



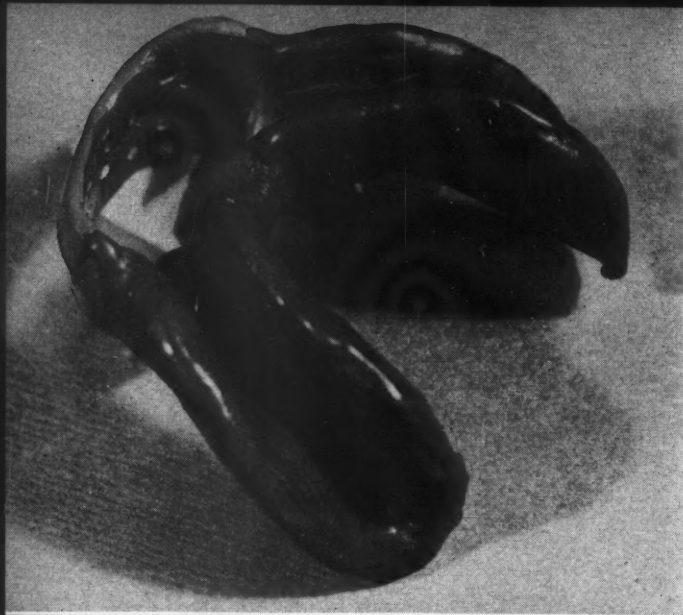


Fig. 7—Posterior compound impression completed.

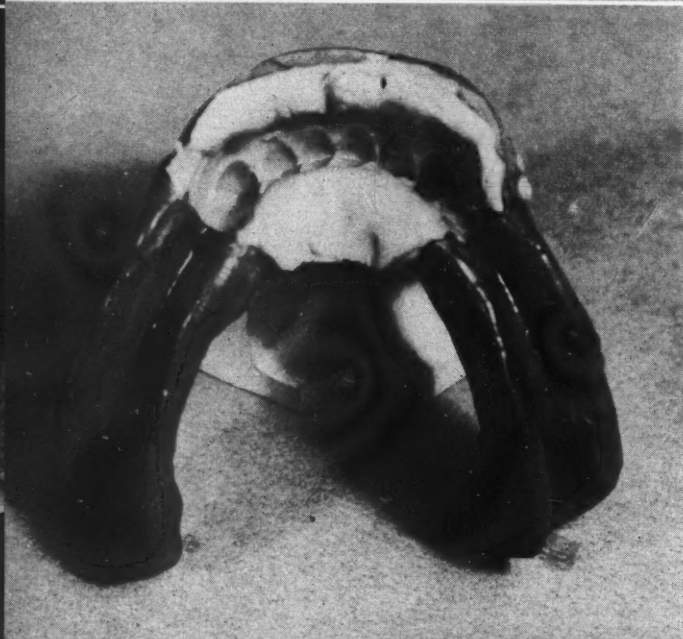


Fig. 8—The completed impression.

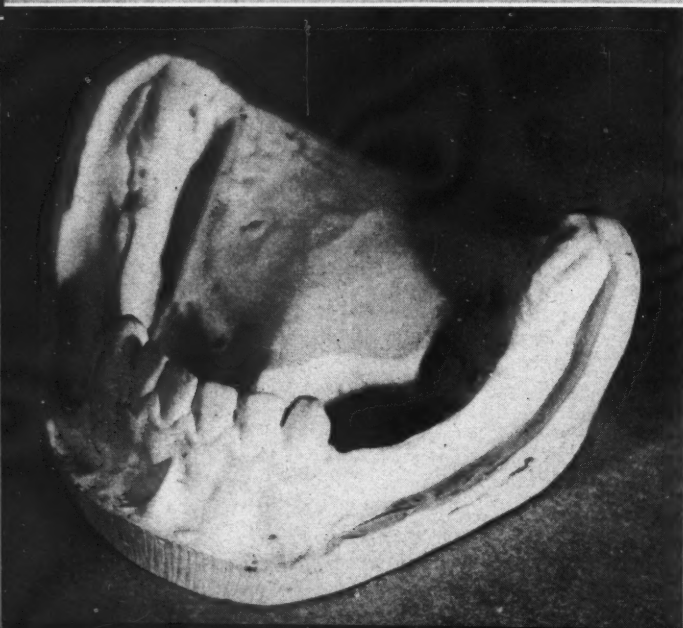


Fig. 9—The resulting cast made from compound and colloid impression.

ments. Free the muscle attachments in a sweeping curve rather than in a triangular notch.

d) Free the sublingual duct in the incisal area. Allow the tray to be well overextended on the labial of the anterior teeth.

8. Using a number 7 round bur, drill holes in the box portion of the tray to retain the hydrocolloid or colloid (Fig. 5).

9. Take an impression of the posterior edentulous area, using Dresch's low-heat compound.

a) Place a roll of the compound over the periphery of the tray (except in the labial area), extending it halfway to the crest of the ridge. Soften the compound in water of 130° F., and seat the tray firmly in the mouth. Repeat until the compound joins buccally and lingually. Be sure to drive the compound toward the ridge to prevent vacant spaces (Fig. 6).

b) Using a Hanau torch, heat about 1 inch of the compound in the distolingual area of one side of the tray; temper and carry to the mouth. Have the patient protrude the tongue as far as possible. Repeat the procedure on opposite side of tray.

c) In the same way, heat the compound in the lingual bicuspid area, and have the patient place the tongue in each cheek.

d) Soften the compound in the incisal lingual area. Have the patient protrude the tongue until it touches the labial portion of the tray.

e) Soften compound in buccal molar area, and extend cheek to its limit. Repeat procedure in the bicuspid area. Posterior portion of the impression is now complete (Fig. 7).

10. Fill the perforated box of the tray with colloid, holding a finger under the box until the tray is placed in the patient's mouth. Have the patient protrude the tongue to the labial portion of the tray. If the posterior position of the tray is properly seated, the colloid will appear thin over the compound and may be removed easily (Fig. 8). If a thick layer of colloid appears on the compound, the impression was not properly seated and must be retaken.

Jenkins Arcade.



# The Editor's Page

THE DRAWING on this page shows the years that are dangerous to the integrity of the dental hard tissues. Burrill<sup>1</sup> has shown recently by bacterial and chemical determinations that caries susceptibility is higher during the age period 13-21 than at any other time. Clinical evidence substantiates these laboratory determinations. Every dentist knows that the teen years and the early twenties are the years of greatest susceptibility. The factors to explain this phenomenon are unknown. Some observers are of the opinion that the years of adolescence, rapid growth, and development throw a stress on the endocrine system which influences the degree of susceptibility to caries. Other observers believe that as the child evolves from childhood, he changes his dietary pattern. Part of this change comes when he escapes from the careful food selection exercised by close parental control and begins to eat outside the home and to select his own food.

In operation, the public health dental programs stop abruptly when the need is greatest. In some communities the child is carefully carried through the primary and secondary schools under a dental health program. When he leaves high school at seventeen or eighteen, when his treatment need is the greatest, he is completely severed from a public health program. If he leaves home for college, he expresses his independence and has a disdain for nutritious foods. He begins an orgy of candy bars, carbonated drinks, and hamburgers. As part of this new independence, he may show a marked indifference to dentists, dental appointments, and dental hygiene. In the late teen years, the young person has usually reached his all-time high in intolerance toward parental opinion. It is during this period that anything that a parent suggests is likely to be scowled upon by the child as an opinion of senescence. The mother, who has conscientiously planned the family diet, has insisted that

the child keep dental appointments regularly, and has waited in vigil in the bathroom to see that the teeth were brushed, finds herself labeled an "old fuss-budget" or an "antique" by the emancipated child. The increased susceptibility to caries in the adolescent and postadolescent years is the expression of social phenomena as well as biologic phenomena. Remedies will come by recognizing the complexity of the subject.

The Dental Corps of the Army and Navy might recognize the increased tendency to caries among the young soldiers and sailors. Many boys will be in military service during their age of greatest susceptibility. We know that early recognition and treatment of caries is the procedure of choice. It might be advantageous if more preventive treatment were given to the youngsters of the 18-21 group in Service. This would mean that they might be a special group for more frequent examinations and for a correction of incipient, highly active caries.

Up to this time the Dental Corps have done a strenuous job in removing diseased teeth, restoring the worst of the carious teeth, and replacing missing teeth. The peak load of this initial treatment should soon be over. From now on, maintenance care will be in order. This phase of the new treatment program takes fewer man hours and is less expensive than the initial treatment phase. With the number of dental officers who are in Service, and with the shift from the initial treatment phase to the maintenance level, it should be possible to spend more time on the dental care of each soldier and sailor. At present the military dental examinations are made to determine those who are in most urgent need of care. The examination is entirely clinical and frequently superficial. With the stabilization in size of the military forces, it may be possible to make more complete examinations with an emphasis on the detection of beginning caries and the early treatment during the period of greater susceptibility.

<sup>1</sup>Burrill, D. Y.: Changes in Caries Susceptibility With Age and Sex, J. Dent. Research, 22:367 (October) 1943.



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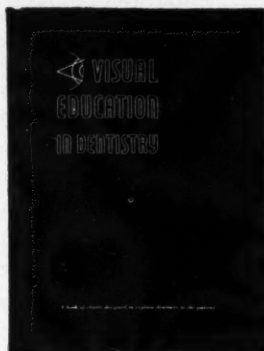
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Of course, you have given before. Of course, you will give again.

But this year when the need is greater than ever . . . when it's your own men we serve . . . this year dig deeper than ever before and be glad that you can. For wherever he is

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5. How Irregularities of the Teeth Affect the Face
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8. The Development of Root-End Infections
9. A Stitch in Time Saves Nine
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13. Diseases of Teeth and Trees
14. The Collapsed Face
15. "Be Not the Last to Lay the Old Aside . . ."
16. The Foundation's the Thing
17. Insulation
18. "One Rotten Apple May Spoil a Bushel"
19. The Circulation of the Blood
20. Pyorrhea Treated or Neglected
21. The Action of Local Anesthesia
22. "A Little Neglect May Breed Mischief . . ."
23. The Fifth Cranial or Trigeminal Nerve
24. Danger Begins at Six
25. How a Full Denture Fits
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## Contra- Angles

### Psychiatry in the War . . .

According to the psychiatrist, David Slight, 30 per cent of the rejections for military service are due to neuro-psychiatric disorders, and 30 per cent of the men discharged from Service for medical reasons are casualties of the same type. Thirty per cent of the casualties in combat are also neuropsychiatric. Doctor Slight, speaking before the Odontographic Society of Chicago, emphasized that during World War I dentistry came into its own, but psychiatry was just beginning to gain recognition. The interest aroused in psychiatry during World War I influenced the development of psychiatry as a medical specialty. The result was that when World War II began there was a group of medical specialists well trained to evaluate mental and nervous diseases. There have not been enough of these specialists, to be sure. If there were more, which would allow more time for the pre-induction or pre-enlistment examinations, many neurotic and psychiatric personalities could be kept out of the Service. Many of these people are normal if they do not attempt to function outside the confines of their own emotional tolerances. They can be industrious, hard working, honest people in their own communities so long as they are not subjected to unnecessary stresses and strains. Many of these people, when they are faced with the pressures of war, suffer breakdowns. Some can be rehabilitated, but many cannot. They are discharged from the Service with the stigma of being "mental cases." They attempt to return to their home communities or they may go elsewhere, but they find that jobs are denied them because they are officially labelled by the government as



### Bill Jones solved a problem

Dentistry was a problem with the Jones family. The operative pain and nervous strain of dental treatment always put Mrs. Jones' nerves on edge. Bill, senior, was positively scared at the thought of a dental chair. And getting Bill, junior, and Nancy to the dentist was always difficult.

One day Bill, senior, experienced dental treatment under the soothing influence of McKesson analgesia. He acquired a new concept of dental treatment which he readily imparted to his family. "What dentist?" was no longer a family problem. Bill's new dentist acquired a new unit to

add to his *family practice* list.

McKesson nitrous oxide pain control not only saves the operator time and energy; it builds patient confidence and loyalty. Plan now for a McKesson equipped office. Let us tell you what McKesson equipment is doing for other dentists . . . what it can do for you.

NARGRAF



EUTHESOR

"The tooth, the whole tooth... and the gums!"

# LINGUAL BRUSHING

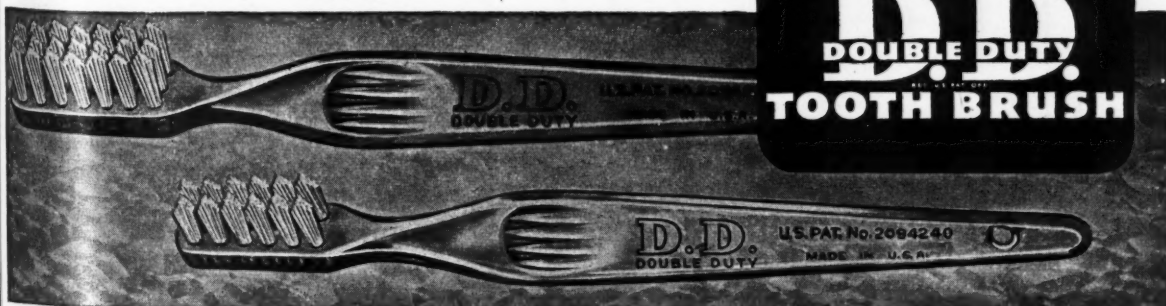
## with the D. D. TOOTH BRUSH

THE D. D. Tooth Brush makes it easier for the patient to really brush those so often neglected lingual tooth surfaces. The unique twist of the D. D. Tooth Brush handle permits more correct placing of the brushhead on even hard-to-reach lingual planes.

As a matter of fact the D. D. Tooth Brush

—which over 1000 dentists helped design—manages to penetrate to every accessible tooth area. Its compact brushhead, flexible resilience of bristles, and carefully spaced tufts all make the D. D. Tooth Brush a scientific and modern aid to oral hygiene. Available in either the two row, or three row type.

Bristol-Myers Company, 630 Fifth Ave., N.Y.C., 20  
Dept. 2



# from start

FIRST DePend on

## D-P Elastic Impression Cream



Empty one bag of D-P Elastic Impression Cream into your mixing bowl. Add 50 CC's of water and stir until a creamy mix is obtained. Pour the mixture into a PERFORATED TRAY. You are now ready to take the most accurate impression you've ever taken. It's as simple as that . . .



When dentures need relining, D-P Denturlyne should be standard practice. Strictly non-toxic and non-burning, it can be worn for months. It will not chip or flake. Use



## DENTURLYNE



Too frequently dentures are trimmed until suction is destroyed and the dentures ruined. Used as a carbon paper on the issue surfaces, you'll find where and how to trim for exact fit and elimination of the cause of sore spots, with



## INDICATOR GEL

DePend  
on . . .

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LOS ANGELES, CALIF.

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**FOR VICTORY**



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UNITED  
STATES  
WAR  
BONDS  
AND  
STAMPS**

"queer, unstable, and undependable" people. Doctor Slight emphasized that a careful pre-induction examination could have weeded out many of these people to their benefit and to the benefit of the government. The stigma would not be engraved upon the person, and the government could be saved large future expense in pensions and hospital attention.

Doctor Slight, in an effort to define mental normalcy, stated that the person who is "normal" is one who gratifies and expresses his talents, impulses, and thoughts to a maximum degree with the consequent minimum of social disapproval.

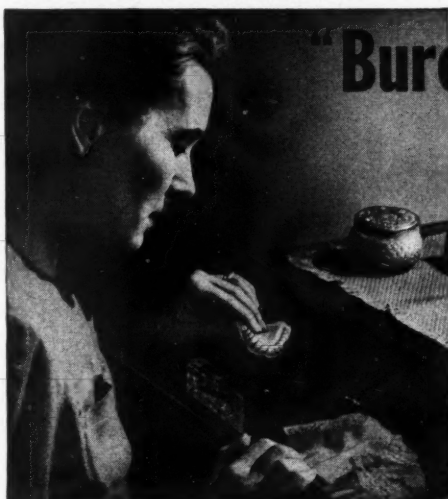
The plight of the eighteen year olds is particularly difficult from both psychologic and physical points of view. These boys are often large, hulking, powerful, manlike figures; they are physically mature. They have not, however, been subject to the weight of responsibility. They have been protected and pampered—life has been easy for them. In these hulking, powerful bodies are often found socially immature minds. Although they make excellent soldiers considered from purely physical standards, they are subject to mental strains out of proportion to their years and their experiences.

In the early days of the republic, many boys and girls were mature at eighteen. They were breaking the prairie, striking trails through the wilderness, and living in sod houses on the plains. They were fathers and mothers before they reached their twentieth year. This made them people of social responsibility. Present-day boys and girls, better fed than were their grandparents, are bigger persons physically, but it is unlikely that they are as completely rounded personalities as were their grandparents. Just as the eighteen year old presents an unusual dental problem, so he presents a unique psychologic problem.

### We All Owe Money . . .

After greeting the Collector of Internal Revenue on March 15, every taxpayer is aware of his share of the national debt and is aware that he is an important contributor to the





## "Bureau-Drawer" Dentures

may so easily  
be avoided in  
7 out of 10 cases

**"I only wear them when I have to**  
—the rest of the time they're in my bureau drawer,"—disappointment to the patient, indirect criticism of the dentist. Yet in 7 out of 10 cases, "Bureau Drawer" dentures would be avoided by the early use of Dr. Wernet's Powder during the adaptation period.

Dr. Wernet's Powder is acceptable on sight to the patient, easy and pleasant to use because of its delicacy and purity. It helps adapt the patient to the new denture and is good insurance against unfounded dissatisfaction or criticism.

Impartial laboratory tests prove Dr. Wernet's Powder to be 26.1% whiter and purer than the average of leading competitors; 50% more viscous (for maximum security) and 46.5% more absorbent (for faster denture control).

**FREE SUPPLY** on Request to Wernet Dental Mfg. Co., Dept. 74-C, 190 Baldwin Ave., Jersey City, N. J.



The basic ingredient of Dr. Wernet's is the same as is used in the making of fine ice cream.



So Pure In Ice      You Eat It Cream

# DR. WERNET'S POWDER

ADAPTS THE PATIENT TO THE DENTURE



Castle Ultra-Violet Lights are recommended for both operating rooms and reception rooms.

The Wilmot Castle Company presents a new, high intensity ultra-violet bactericidal light for the protection of the dentist and his patients from the dangers to health from air borne infections. Write for complete details.

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1123 University Ave. Rochester 7, N. Y.

**CASTLE LIGHTS**

## OUR BEST HABIT

*... says the Axis*

It's American sociability! We love to get together and . . . *talk*. We talk about our work . . . about what we see, or hear from others . . . about latest letters from our boys.

Then others repeat our words to others . . . and others . . . and others . . .

From 10 . . . 50 . . . 200 random phrases about our war production or our boys in uniform, expert Axis agents piece together *one* important military secret which *you* may help betray . . . just by being sociable!

Don't repeat even *little* things about our war program unless they've been published or broadcast. Think *before* you talk!

federal government. Some enterprising fiscal expert has analyzed the national debt from 1789 to 1944. He makes interesting observations and shows striking figures:

George Washington was able to finance the organization and the adjustment of the federal government to the tune of \$19.32 per person. In the forty-three years from Washington until the administration of Martin Van Buren, the per capita debt decreased until it reached the all-time low of \$.21 in Van Buren's administration. Zachary Taylor had the post-war financing of the Mexican campaign which shoved the debt up to \$2.30 per person. During the days of industrial expansion, the debt stayed at about that figure. When the War Between the States came along, Lincoln was required to increase the per capita debt to \$77.69. There followed twenty - seven years of almost unbroken reduction in the public debt until it reached the low figure of \$14.49 per person in 1893. The short Spanish-American War was not very expensive to the American people; the debt was \$19.33 per capita at the turn of the century.

During the quiet days of the early century, there was a stabilization of the economy of the country so that all that each person owed was about \$13.00. In 1919 the debt shot up to \$240.09 per person to finance World War I. It dropped from that figure to the Coolidge low of \$131.49. The depression hit, which cost each American citizen about \$213.65 to finance.

Now if you want a headache, look at these figures: In 1944 the gross national debt is estimated to be 260 billion dollars, or \$1,486.00 per person! Now you know why your March 15 payment was so high.

### Fees Increased . . .

British dentists have labored for more than thirty years under a national health insurance system. They have clamored these years for a more favorable scale of fees. Finally they have been able to convince the Ministry of Health that such an increase is necessary. Their first objective was to "implant in the Scale a recognition

Now See  
What's Happened  
to the  
**SQUIBB  
ANGLE  
TOOTHBRUSH**

*...it has a  
**NEW**  
all-plastic handle*



Only the  
**SQUIBB  
ANGLE  
TOOTHBRUSH**  
has all these  
desirable  
features

\* "Synton" (Reg. U. S. Pat. Off.) is a trade-mark of E. R. Squibb & Sons.

1. Shank—bent at an angle, like your mouth mirror—facilitates cleaning difficult-to-reach back molars and lingual surfaces of the incisors.
2. The design of the new plastic shank makes it easy to bring bristles down to the gum line while keeping the brush head in a practically horizontal position—a condition pre-requisite for maximum efficiency in cleaning interproximal spaces.
3. Three rows of Synton\* bristles—six tufts to a row. Water-resistant, they are longer-lasting. Two degrees of stiffness—hard and medium.
4. Adaptable to all types of mouths and brushing techniques, the Squibb Angle Toothbrush was designed by a practicing dentist conversant with all the problems involved in brushing the teeth. It is a brush you will like to use yourself—one to recommend to your patients.

The Forgotten Tooth Becomes the Remembered Tooth with the

**SQUIBB ANGLE TOOTHBRUSH**  
*Ask for it... at your druggist*





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**AMMONIACAL SILVER NITRATE  
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AND STAMPS**

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V



**Ames "CC" Liquid**

Ames "CC" Liquid, containing 5% dissolved copper phosphate, can be used with Ames Crown and Bridge Cement powders in cementations where germicidal action is desired.

A bottle in the laboratory often proves to be a valuable convenience where an unexpected germicidal filling or orthodontic cementation is necessary in routine practice.

"CC" Liquid is sold at the same price as the Ames "C" Liquid regularly used with Crown and Bridge Cement. The W. V-B. Ames Company, Fremont, Ohio.

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**DENTAL CEMENTS**

**When Attachments  
Are Indicated for  
Removable Restorations**

USE **BROWN**  
*Precision*  
**ATTACHMENTS**

[ See our advertisement in the April issue showing a specific case of a Precision Attachment Restoration. ]



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**Standard for 24 Years**

Proximal Contact (In Two Types)	Plain Shank
Cat. No.	Size and Shape Cat. No.
327	.085" x .025"—Flat None
321	.096" x .036"—Flat 312
322	.115" x .036"—Flat 316
323	.125" x .036"—Flat 313
324	.150" x .036"—Flat 306
325	.175" x .040"—Flat 316
None	.102" x .052"—Oval 304
None	.058" Dia.—Round 301
None	.064" Dia.—Round 302
None	.071" Dia.—Round 303

**Strong • Easy Adjustable • Springy**

Round — \$9.00 ea. Flat & Oval — \$10.00 ea. complete

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of the importance of careful and accurate diagnosis by providing for the payment of a fee for examination, to be payable in every case, irrespective of whether the patient does or does not return for treatment." This was approved. Now dentists working under the national health insurance system are paid a fee for examination and diagnosis. Furthermore, the fees for maintenance dental care, or as the British call it "conservative treatment," have been increased. No longer must a dentist working under this system depend for his profit on prosthetic services. In the future he will be paid a reasonable fee for diagnosis and operative procedures.

This is a significant step because in England, as well as in this country, too many dentists perform the simple conservative type services at little profit and often at a loss. They expect to make their profit by performing prosthetic services. This system is all wrong. It defeats the very substance of any preventive program. People should be trained that the simpler the tooth restoration, the better it is for them. A simple occlusal inlay is infinitely better for the patient than is a large three-quarter tooth restoration. We have worshipped too long before the shrine of Size. The bigger the bridge, the larger the restoration; and the bloodier the surgery, the more expensive the treatment. We have inculcated in patients the idea that unless we do something big and shiny and tangible, we have given no service at all. This is as absurd as if the surgeon based his fee on the size of the scar: the bigger the scar, the higher the fee. It will take a long period of education to convince the public of these truths. We cannot expect the public to accept them if dentists do not accept them. Too many dentists are ignorant of the philosophy of preventive dental care.—E. J. R.

**Lingual Arch Therapy**

(Continued from page 110)

4. The arch wire should be of a material which is capable of exerting pressure for a long period of time. Gold-platinum wire has been found to

(Continued on page 135)

be most satisfactory for the main arch because it can be adapted easily, it retains its elastic limits for a long time, and it retains its inherent properties after attachments have been soldered to it. If attachments are soldered to the main arch over and over again, however, it will eventually lose its tensile strength.

Auxiliary springs are used: (1) when there is insufficient space for a tooth or teeth; (2) when teeth need to be moved en masse; and (3) when a great deal of isolated movement is needed in one part of the arch. After such gross changes have been made, or if they are not needed, the lesser changes and general conformation of the dental arch can best be accomplished through the use of the main arch wire. The lingual arch is used in the final treatment after gross tooth movement has been accomplished, and when readjustment of the dental arch to facial form is needed. If the lingual arch is gradually reshaped to the desired dental arch form and is placed in the mouth for sufficient time, the teeth will adapt themselves to the new form created in the lingual arch.

These changes must be made gradually, and sufficient time must be allowed for adaptation of the teeth to the new arch form. Adjustment of the main arch should not be made until the entire force contained in it has been expended and it is loose in relation to the teeth. Adjustment of the main arch is especially valuable when there is a dissimilarity between the left and right sides of the dental arch.

—From Orthodontics, *Am. J. Orthodont. & Oral Surg.*, 30:1 (January) 1944.



*Every day the war lasts  
stresses the importance of*  
**RADIODONTICS**

WITH sustained production needed for final victory, it's essential to help war workers stay on the job. Radiodontics is a potent ally. Uncovering incipient caries, serving as a sure check on more serious conditions, it aids in guarding the nation's health and cutting down absenteeism. Saves time for *you*, too.

Wartime pressure enhances the importance of Eastman's twofold contribution: (1) a complete line of dental x-ray films—*Bite-Wing*, *Periapical*, *Occlusal*, *Extra-Oral* . . . in the sizes and with the characteristics preferred by the profession; and (2) an unvarying uniformity of product that makes it safe for you to adopt swift, standardized exposure and processing technique. Order from your regular dental dealer. . . . Eastman Kodak Company, *Medical Division*, Rochester, N. Y.

*Made together to work together . . .* For the best possible results at all times with Eastman films: (1) have your dealer deliver fresh Eastman chemicals, powder or liquid, regularly; (2) when you receive them, replace all stale solutions promptly.

*The great majority of all dental radiographs  
are made on* **EASTMAN FILM**



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**LET'S GIVE**



INDIANA COUNTY		
<u>WESTERN PENNSYLVANIA</u>		
POPULATION - 79,806		
DIVISIONS AND POPULATION:		
Government Census of 1940.		
	<u>Pop.</u>	<u>No. of Dentists</u>
		<u>In Service</u>
Arwata	790	
Arwata borough	143	
Arwata borough	1,049	
Arwata borough	1,348	
Arwata borough	894	
Arwata borough	5,002	
Arwata borough	1,180	
Arwata borough	1,189	
Arwata borough	3,555	
Arwata borough	3,582	
Arwata borough	9,898	
Arwata borough	2,182	
Arwata borough	829	
Arwata borough	3,082	
Arwata borough	818	
Arwata borough	806	
Arwata borough	1,490	
Arwata borough	2,322	
Arwata borough	512	
Arwata borough	829	
Arwata borough	8,844	
Arwata borough	2,078	
Arwata borough	10,080	
Arwata borough	232	
Arwata borough	429	
Arwata borough	2,956	
Arwata borough	604	
Arwata borough	2,864	
Arwata borough	468	
Arwata borough	2,124	
Arwata borough	1,077	
Arwata borough	114	
Arwata borough	823	

[illegible]

1	Doc	John	Gr	2	2144 Street	Jefferson, Pa
	Birth Date	Birth Place	Birth		Street Address	Work of Day

Color: W.  
Mr.  
 Name: Asnering  
 Date of Birth: September 26, 1929  
 City: University of Pittsburgh  
 Year of Graduation: June 1958  
 Further Information or Remarks: Served World War II Aug. 1950  
1942 to 1947, 1st Lt., Army Medical Res.  
General Position: Clinician-Physician.  
Research Branch: Physiology, Treasurer, Society-1958  
President, 1950, Co. State Health Committee  
Delta Sigma Delta Membership, Religion - Protestant  
Married - 2 Children

Previous Record:	1942	1943	1944
Joined Society July 1958	1945	1946	1947
Continues membership through 1961	1948	1949	1950

—says Doctor W. Earle Craig in his forthright article in March ORAL HYGIENE about “Plans for Postwar Days.” The author, a member of the magazine’s staff, is secretary of the Odontological Society of Western Pennsylvania, and is actively participating in the planning he outlines. Every dental society officer may profitably study this unusual article. **“Is Advertising So Degrading?”** was written for ORAL HYGIENE by L. Morgan Yost of the American Institute of Architects Committee on Public Information. His comments are significant because architects, too, are bound by a code of ethics. **“A Dentist Makes Test Flights for Research Laboratory”** tells of the interesting wartime activity of Doctor Donald V. Summerville. **“U. S. Navy Trains Dental Technologists”** reveals methods employ-

ed at the Farragut, Idaho, Naval Training Station—in two pages of type and photos.

**"Central American Dentist Battles Tropical Diseases,"** by Charles Morrow Wilson, is a fascinating story that tells how Doctor Ricardo Aguilar Meza learned, "the hard way," how to practice preventive medicine and dentistry in the tropics. **"I Pay for Dentistry,"** explains Doctor Douglas W. Stevens, who tells why "this system for eliminating most of the free dentistry in my office has worked well and may solve the problem in yours."

**This month's nine departments** include Picture of the Month, Dentists in the News, Technique of the Month, Military News, Editorial Comment, Ask ORAL HYGIENE, How to Kill a Dental Practice, Laffodontia, and The Corner.

## DENTAL MEETING

## Dates

District of Columbia Dental Society, second Tuesday in each month, Medical Society Auditorium, Washington.

The Thomas P. Hinman Mid-Winter Clinic, Municipal Auditorium, Atlanta, Georgia, March 26-28.

The Women's Dental Society of New York City, regular meetings held May 17, September 20, and November 15, Hotel Pennsylvania, New York City.

The American Society for the Advancement of General Anesthesia in Dentistry, Spring meeting, National Republican Club, 54 West 40th Street, New York City, March 27.

Old Dominion Dental Society, annual meeting, Farmville, Virginia, April 10-11.

Indiana State Board of Dental Examiners, regular meeting, Indianapolis, April 24-27. For information write to Doctor C. A. Frech, Gary National Bank Building, Gary.

The Cleveland Dental Society, annual Spring meeting, Hotel Carter, Cleveland, May 8-10.

Indiana State Dental Association, eighty-seventh annual meeting, Claypool Hotel, Indianapolis, May 15-17.

(Continued on page 141)



Tennessee State Dental Association, seventy-sixth annual meeting, Hotel Peabody, Memphis, May 22-25.

Ontario Dental Association, seventy-seventh annual meeting, Royal York Hotel, Toronto, May 29-31.

New Mexico State Dental Association, annual meeting, Albuquerque, June 4-6.

The Northeastern Dental Society Swampscott Convention, New Ocean House, Swampscott, Massachusetts, June 11-14.

New Jersey State Board of Dental Examiners, regular meeting, Trenton, June 28-July 2. For information write to Doctor J. Frank Burke, 150 East State Street, Trenton.

North Dakota State Board of Dental Examiners, regular meeting, Gardner Hotel, Fargo, July 10-13. For information write to Doctor R. A. Andrews, Secretary, Carrington, North Dakota.



MARCH, 1944

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THE PERFECT ADHESIVE FOR DENTURES

Because of its blandness—purity and longer lasting effectiveness—CO-RE-GA is best for your prosthetic patients.

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INSURES BETTER IMPRESSIONS



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# Decalcification of the Crowns of Teeth in Situ

(Case Report)

STANLEY A. LOVESTEDT, D.D.S., Rochester, Minnesota

A WHITE man, aged 62, on examination at the Mayo Clinic, presented a large firm mass which involved the left tonsil, the base of the tongue, and the lateral wall of the hypopharynx. Biopsy of a specimen from the tongue revealed the lesion to be a squamous cell epithelioma, Grade 3 (Broder's method). Irradiation was prescribed and the patient returned home for treatment.

Nine months later the patient returned and was found to be in good general condition with no evidence of recurrence of the epithelioma. Dental examination and the roentgenograms revealed nothing abnormal except that the condition of a left mandibular molar necessitated its removal. There was no clinical or roentgenographic evidence of dental decalcification.

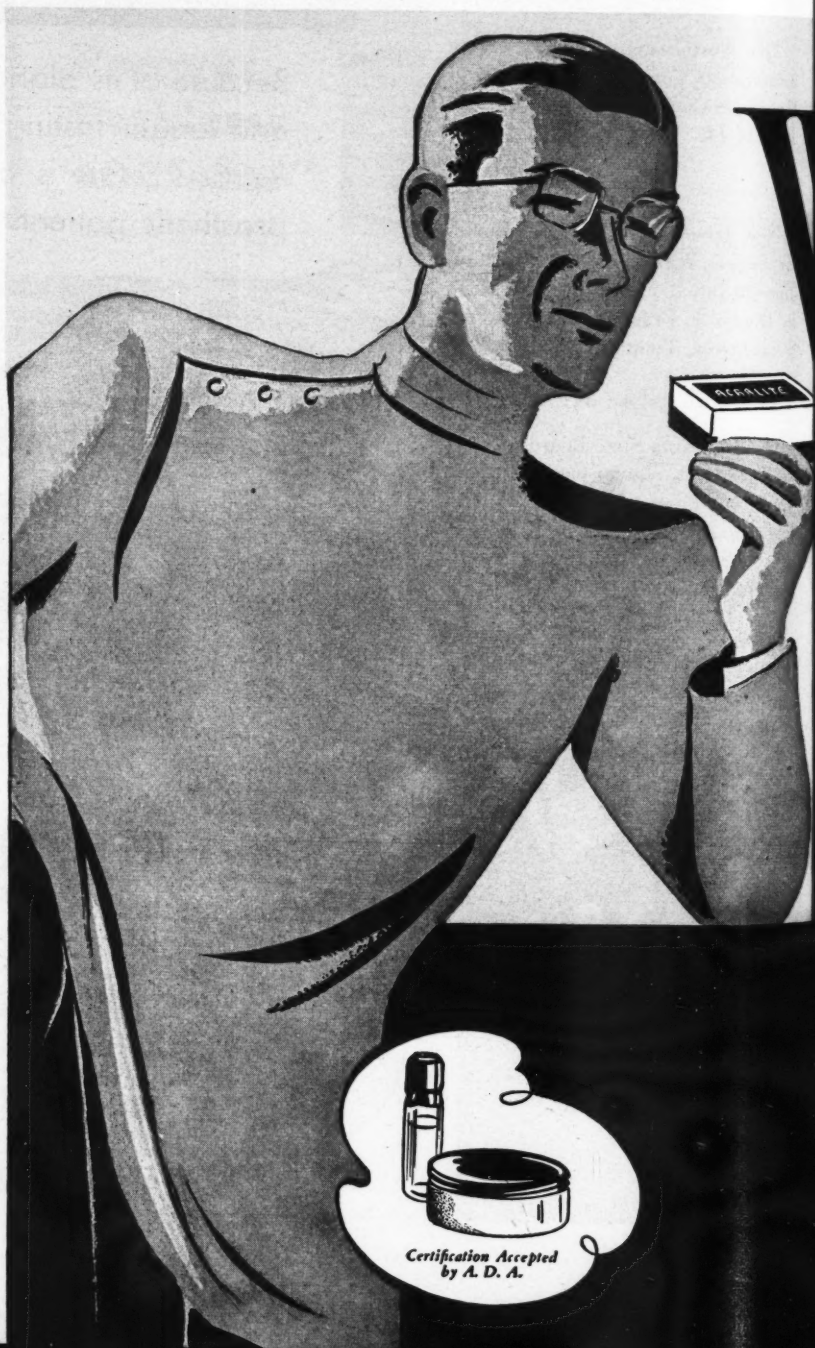
A year later the patient stated in a letter that shortly after his last visit to the clinic he had had three teeth removed, followed by considerable post-operative dental trouble. Six weeks after sending the letter, the patient returned to the clinic. The results of dental examination at this time were as follows: The breath smelled strongly of creosote. The entire crowns of all the teeth had become completely decalcified. The portions of teeth still visible were flexible and rubbery, comparable to dental substance following its complete decalcification in nitric acid. Pain was not present. The chief complaint was lack of function. A large area of leukoplakia was found on the cheek and the surrounding structures in the region of the right retromolar triangle and the commissures of the jaws. The crowns of the teeth had been decalcified so completely that they were no longer discernible in the roentgenograms, and clinical examination revealed that the enamel of all the teeth had been destroyed.

The twelve mandibular teeth were

removed under local anesthesia, and ten days later the fifteen maxillary teeth were removed. No complications were experienced.

The extracted teeth were not unusual, except for the lack of coronal structure and the strong odor of creosote.

The line of demarcation between the normal root and the decalcified portion of the tooth was abrupt. The dental pulp of a maxillary cuspid showed a localized inflammatory reaction restricted to that part of the pulp nearest the crown, with no re-



action evident in the remainder. No degeneration was present.

#### Comment

The decalcification may have been the result of the constant use of cough drops which the patient had found it necessary to always have in his mouth to relieve the xerostomia which followed irradiation therapy. Chewing gum and different kinds of candies and cough drops had been tried in an effort to stimulate the secretion of saliva.

The cough drops that the patient finally selected and used continuously contained as active ingredients menthol, beechwood creosote, eucalyptol, horehound, white pine, and wild cherry. When one of these cough drops was dissolved in 100 cc. of water, a solution of pH 5.72 to 6.2 was obtained.

—From Oral Surgery, *Am. J. Orthodont. & Oral Surg.*, 30:52 (January) 1944.

## Worthy of Your Choice

In these busy times, especially, the selection of a denture material for your patients must be made with a view toward the future.

We believe, most sincerely, that **ACRALITE** is worthy of your choice. Its fabrication is controlled rigidly at every point. It is subjected to tests in our own plant that are far more severe than those required for A. D. A. certification.

In use — **ACRALITE** is strong, hard and dense. Its natural color is stable. It is adaptable . . . and always *dependable*.

For dentures of distinction . . . standardize on **ACRALITE**.

# ACRALITE

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ACRALITE CO., Inc.

NEW YORK, N. Y.



This ad published in cooperation with The National Society for Crippled Children, Elyria, Ohio.

While Your Patient Waits

**YOUR NURSE CAN  
REPAIR ANY ACRYLIC  
DENTURE IN 20-30  
MINUTES WITH . . .**

## FUSENE

*The Invisible Repair*

No flasking . . . no preparing of denture. **FUSENE** is ready for immediate use. Follow simple instructions. Actual working time only 5 minutes.



**THERMACRYL  
COMPANY  
OF NEW YORK**

283 EAST 23rd STREET

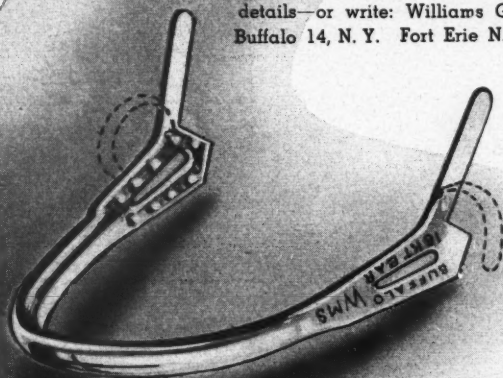
NEW YORK, N. Y.



# ideally functional

## for the newer trends

● Williams Spur-Saddle Lingual Bar is designed to fulfill the requirements of the newer technics—especially today's lightweight cases of acrylic and similar denture materials. Unique reinforcing spurs are quickly adapted, lying neatly over the ridge and between the teeth, without bulkiness or interference. This new bar is anatomically contoured throughout, with slotted, corrugated ends for permanent retention. Full 16 karat gold alloy, easily manipulated. Ask your dealer for full details—or write: Williams Gold Refining Co., Inc., Buffalo 14, N. Y. Fort Erie N., Ont. Havana, Cuba.



# WILLIAMS

## SPUR-SADDLE LINGUAL BAR

See pages 98-99 D.D.3  
VERNON-BENSHOFF CO.  
P. O. BOX 1587, PITTSBURGH, PA.  
Please send Vernomite information.

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Address .....  
City .....

See page 100 D.D.3  
CLARK-CLEVELAND, INC.  
BINGHAMTON, N. Y.  
Please send samples of Fasteeth.

Dr. ....  
Address .....  
City .....

See page 101 D.D.3  
KONFORMAX LABORATORIES, INC.  
1720 AVENUE Y, BROOKLYN, N. Y.  
Please send information.

Dr. ....  
Address .....  
City .....

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Address .....  
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Dr. ....  
Address .....  
City .....

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Please send Corega samples.

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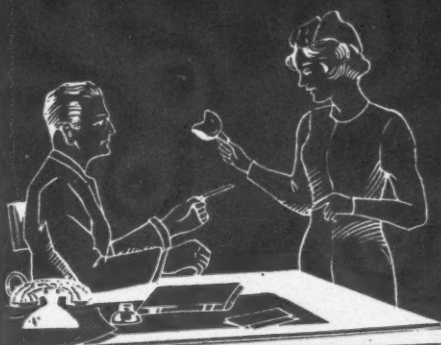
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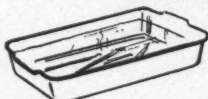
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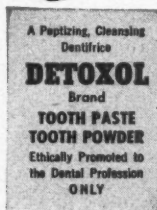


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## ADVERTISING INDEX

Acralite Co., Inc. ....	142-143
Ames Co., The W. V-B. ....	132
Austenal Laboratories, Inc. ....	Insert
Bosworth Co., Harry J. ....	148
Bristol-Myers Co. ....	102, 127
Castle Co., Wilmot ....	130
Caulk Company, L. D. ....	97
Clark-Cleveland, Inc. ....	100
Columbia Dentoform Corp. ....	132
Columbus Dental Mfg. Co. ....	103
Condit, P. N. ....	132
Cook-Waite Laboratories, Inc. ....	105
Corega Chemical Co. ....	141
Dental Perfection Co., ....	123
Dentists' Supply Co., The ..	4th cover
Eastman Kodak Co. ....	135
General Electric X-Ray Corp. ..	133
Getz Co., William ....	104
Ideal Tooth Inc. ....	Insert
Interstate Dental Co. ....	145
Jelenko & Co., Inc., J. F. ....	147-148
Johnson & Johnson ....	106
Justi & Son, Inc., H. D. ..	3rd cover
Konformax Laboratories, Inc. ..	101
McKesson Appliance Co. ....	126
Merrell Co., Wm. S. ....	146
Smith & Son Mfg. Co., Lee S. ....	141
Squibb & Sons, E. R. ....	131
Thermacryl Co., The ....	143
Universal Dental Co. ....	2nd cover
Vernon-Benshoff Co. ....	98-99
Wernet Dental Mfg. Co. ....	129
Williams Gold Refining Co. ....	144
Wilmot Castle Co. ....	130
Young Dental Mfg. Co. ....	126



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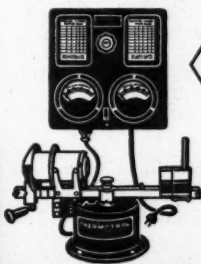
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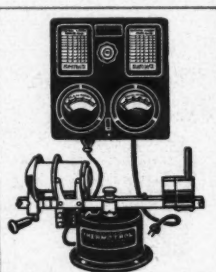
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THE DENTAL DIGEST

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## The Fate of Bacteria Sealed in Dental Cavities

(Continued from page 119)

the existence of bacteria sealed in  
dental cavities.

2. The carious process in dentine  
stops immediately or gradually as  
soon as the lesion is closed from the  
oral environment even when the or-  
ganisms remain alive.

3. The bacteria have a tendency to  
die. In 30 per cent of the cases stud-  
ied, however, positive cultures of  
streptococci persisted after being seal-  
ed for more than a year.

An effective, penetrating steriliz-  
ing agent may be necessary in deep  
decayed lesions near the pulp, not to  
stop the carious process from pro-  
gressing (because it ceases auto-  
matically upon filling of the cavity)  
but to eliminate the possible surviv-  
ing organisms and to eradicate a pos-  
sible focus of bacterial growth which  
may eventually injure the dental pulp  
or tissues elsewhere in the body  
through focal infection.

—From *J. Dent. Research*, 22:349  
(October) 1943.

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Easy to mix

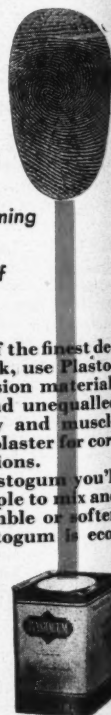
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Accurate recording of  
periphery

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